

What is claimed is:

1. A chip scale marker including a laser system, a wafer holder supporting a wafer to be processed, and a camera moving above the wafer holder by being connected to an X-Y stage and monitoring the wafer supported on a center hole of the wafer holder, the chip scale marker comprising:

5 a unit detachably arranged on a laser beam path from the laser system and reducing power density of a laser beam; and

10 a screen arranged on a center hole of the wafer holder and indicating a position where a laser beam from the laser system is irradiated.

15 2. The chip scale marker as claimed in claim 1, wherein the laser beam power density reducing unit is a pinhole apparatus having a pinhole having a predetermined diameter.

20 3. The chip scale marker as claimed in claim 2, further comprising an ND filter reducing the quantity of the laser beam at a predetermined rate.

4. The chip scale marker as claimed in claim 1, wherein the laser beam power density reducing unit is an ND filter which reduces the quantity of the laser beam at a predetermined rate.

25 5. The chip scale marker as claimed in claim 2, wherein the pinhole apparatus is manufactured of invar or diamond.

6. The chip scale marker as claimed in claim 2, wherein the pinhole apparatus has a convex surface in a direction in which the laser beam is input.

30 7. The chip scale marker as claimed in claim 6, wherein, in the pinhole apparatus, the diameter of the pinhole increases along the laser beam path.

8. The chip scale marker as claimed in claim 1, wherein the screen comprises:

a lower layer absorbing the irradiated laser beam; and

an upper layer transmitting the light from the lower layer upward in a vertical direction.

9. The chip scale marker as claimed in claim 1, wherein the screen
5 comprises:

a lower layer made of glass or acryl whose surfaces are roughly processed to disperse light at a point where the laser beam is irradiated; and

an optical attenuator arranged above the lower layer to provide a single point upward by filtering the dispersed light.

10 10. The chip scale marker as claimed in claim 1, wherein the screen is a semi-transmissive glass.

11. The chip scale marker as claimed in claim 1, wherein the screen is
15 paper.

12. The chip scale marker as claimed in claim 1, wherein the wafer holder further comprises:

20 a plurality of holes formed on a concentric circle separated a predetermined distance from the center hole of the wafer holder; and
a semi-transmissive film provided on the holes.

25 13. A chip scale marker including a laser system, a wafer holder supporting a wafer to be processed, and a camera moving above the wafer holder by being connected to an X-Y stage and monitoring the wafer supported on the wafer holder, the chip scale marker comprising:

a unit detachably arranged on a laser beam path from the laser system and reducing power density of a laser beam;
a camera screen arranged in front of the camera; and
30 a unit installing and removing the camera screen at and from a front side of the camera.

14. The chip scale marker as claimed in claim 13, wherein the camera screen installing and removing unit is a unit rotating the camera screen.

15. The chip scale marker as claimed in claim 13, wherein the camera screen is paper.

5 16. The chip scale marker as claimed in claim 15, wherein the camera screen is a paper roller supported by two support shafts so that, as a first support shaft rotates, paper wound around a second support shaft is released to be wound around the first support shaft.

10 17. The chip scale marker as claimed in claim 16, wherein the camera screen installing and removing unit reciprocates the camera screen in a direction along the support shafts.

15 18. A method of calibrating a marking position of a chip scale marker including a laser system, a wafer holder supporting a wafer to be processed, a camera moving above the wafer holder by being connected to an X-Y stage and monitoring the wafer supported on the wafer holder, a unit detachably arranged on a laser beam path from the laser system and reducing power density of a laser beam, and a screen arranged on a center hole of the wafer holder and indicating a position where a laser beam from the laser system is irradiated, the method comprising the steps of:

20 radiating a laser beam using the laser system to a target position on the screen;

25 measuring a position of the laser beam irradiated to the screen; and

calibrating the laser system by comparing the measured position of the laser beam and a target position,

wherein the screen is made of paper, and the position of the laser beam is a position where the screen is changed black by the laser beam irradiated by the laser system whose power density is reduced by the laser beam power density reducing unit.

30 19. The method as claimed in claim 18, wherein the laser beam power density reducing unit is a pinhole apparatus having a pinhole having a predetermined diameter.

20. The method as claimed in claim 19, wherein the laser beam power density reducing unit further comprises an ND filter reducing the quantity of the laser beam at a predetermined rate.

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21. The method as claimed in claim 18, wherein the laser beam power density reducing unit is an ND filter which reduces the quantity of the laser beam at a predetermined rate.